



# SAT PREPARATION ASSISTANT

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Arivoli Tirouvingadame, Vigneswari Sambandam



# OUR TEAM



**Sadhana Arivoli**  
High School Student



**Arivoli Tirouvingadame**  
Lead Architect



**Aradhana Arivoli**  
Middle School Student



**Vigneshwari Sambandam**  
Technical Lead



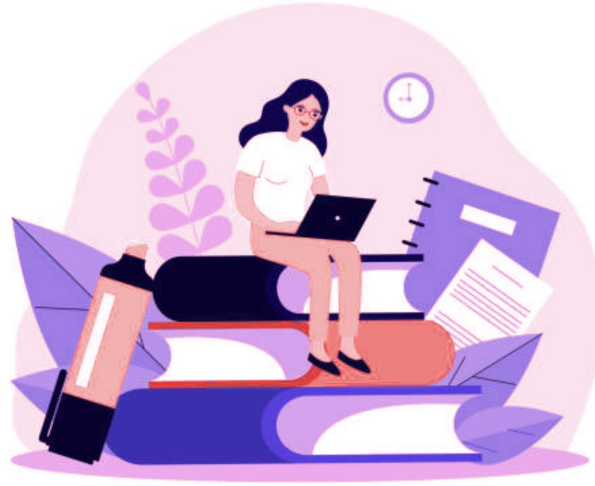
**Jayaradha Natarajan**  
Lead Architect

**SAT PREP**



# WHAT ARE WE BUILDING?

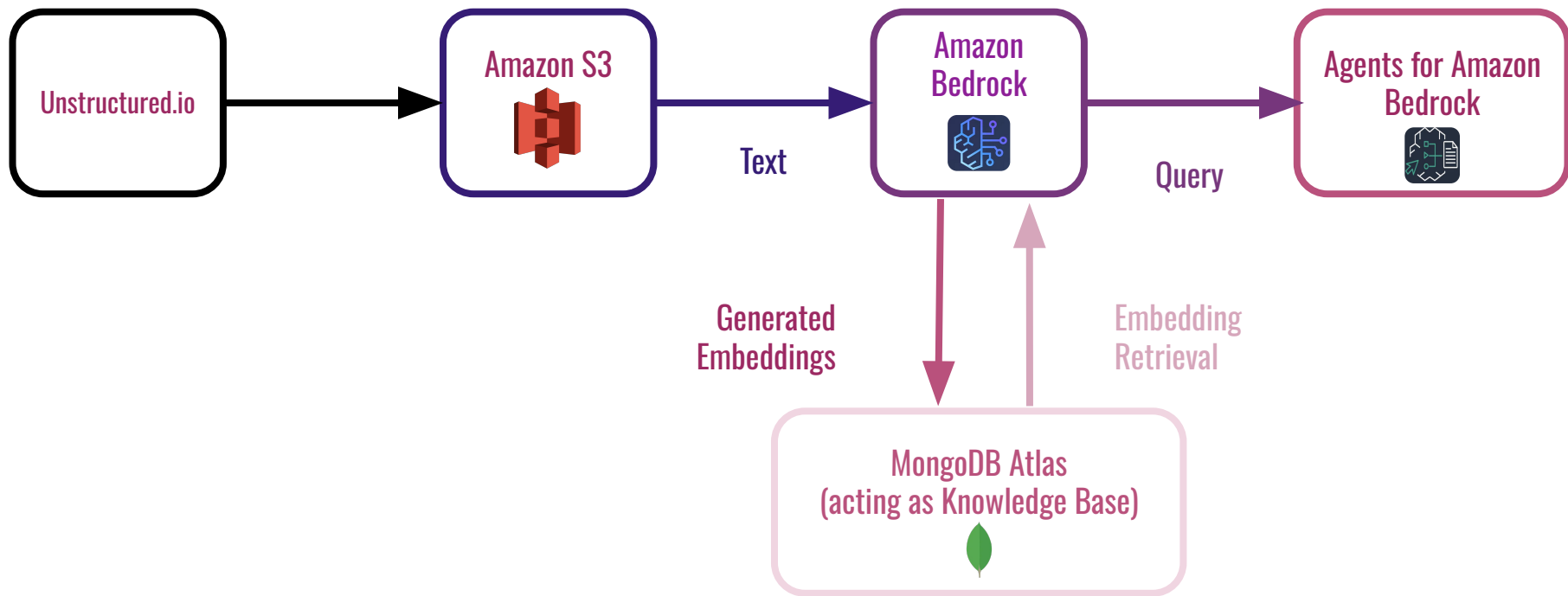
- We are building an SAT Preparation Assistant
- A lot of students cannot afford SAT Prep boot camps and struggle to prepare effectively
- This application can assist in generating mock tests based on student's weaknesses



## TOOLS USED

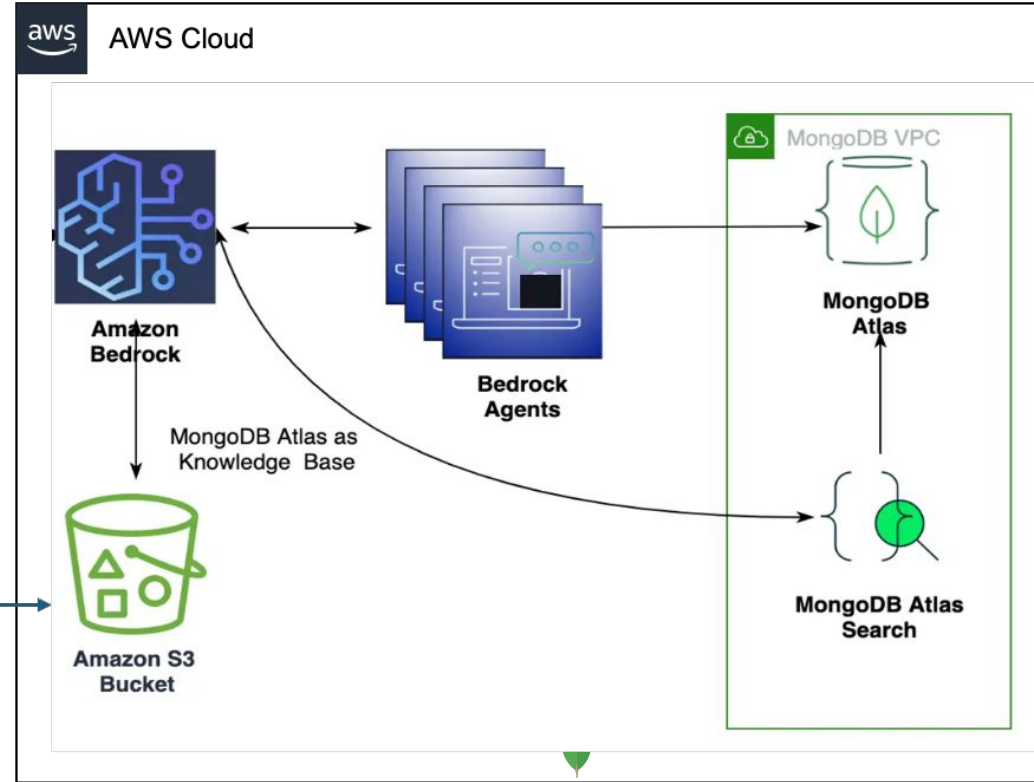
1. MongoDB Atlas
2. MongoDB Atlas Vector Search
3. AWS Bedrock, AWS S3
4. Hugging Face
5. Anthropic Claude
6. Unstructured.io

# ARCHITECTURE



# DIAGRAM

UNSTRUCTURED



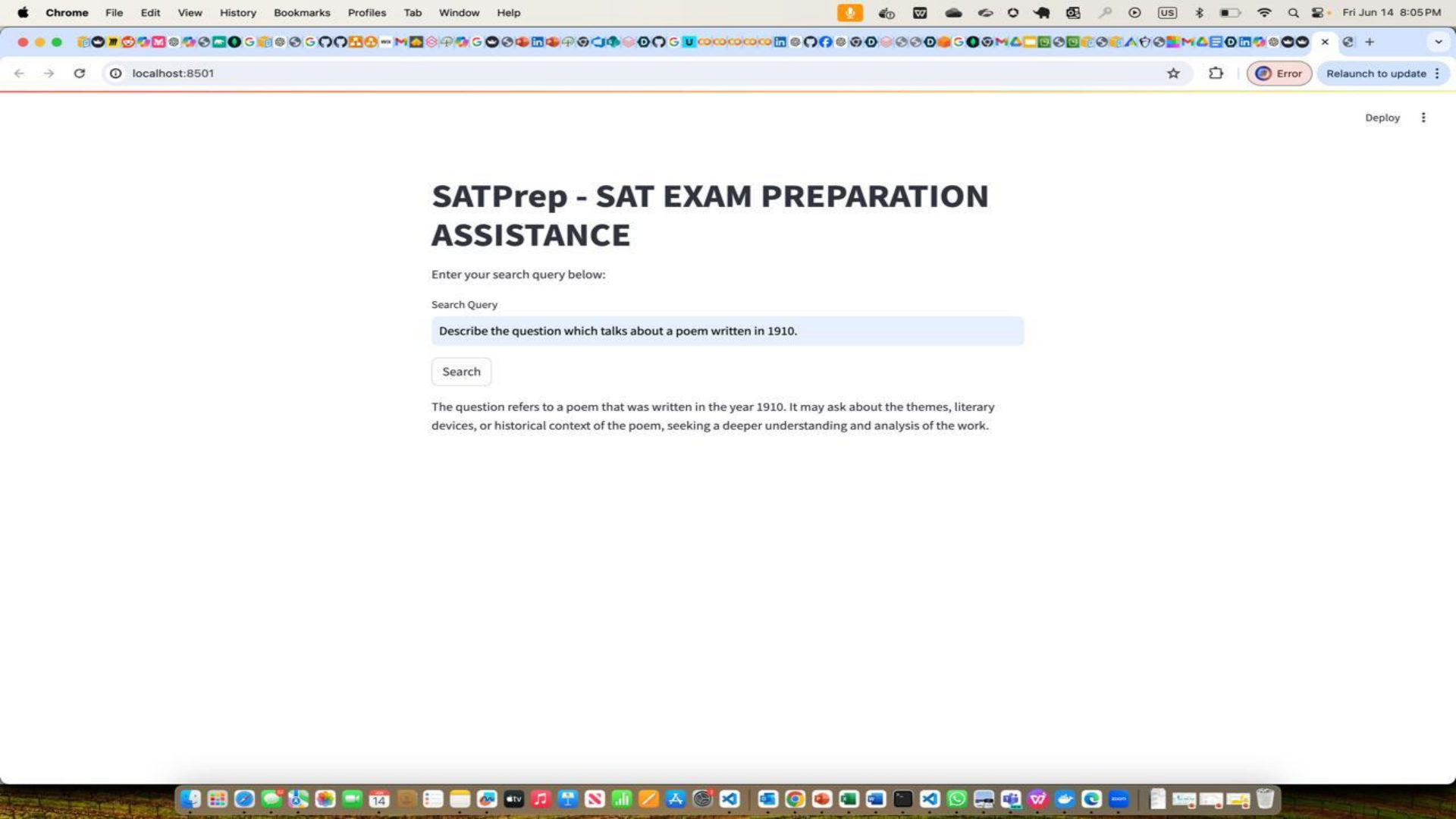
# SAMPLE PROMPTS

## 1. SAT PREP - MATH PROMPTS:

- A. Describe the document.
- B. How many questions are there in the document?
- C. The product of a number  $x$  and four decreased by twelve. Provide a mathematical expression for this.
- D. The quotient of 19 and a number  $d$  increased by seven. Provide a mathematical expression for this.

## 2. SAT PREP - ENGLISH PROMPTS:

- A. Describe the document.
- B. How many questions are there in the document?
- C. Describe the question which talks about a poem written in 1910.



# SATPrep - SAT EXAM PREPARATION ASSISTANCE

Enter your search query below:

Search Query

Describe the question which talks about a poem written in 1910.

Search

The question refers to a poem that was written in the year 1910. It may ask about the themes, literary devices, or historical context of the poem, seeking a deeper understanding and analysis of the work.



# SATPrep - SAT EXAM PREPARATION ASSISTANCE

Enter your search query below:

Search Query

Give me 10 objective type question to practice for SAT test English

Search

1. Which of the following sentences is grammatically incorrect? A. She have been studying all night. B. He is driving to the store. C. They were swimming in the ocean. D. The cat meowed loudly.
2. In the sentence, "The dog ran quickly to the park," what is the adverbial phrase? A. The dog B. Ran quickly C. To the park D. The park
3. Choose the correct form of the verb to complete the sentence: She \_\_\_\_\_ to the theater last night. A. Gone B. Had went C. Went D. Gone
4. Which of the following words is a synonym for "effervescent"? A. Bubbly B. Gloomy C. Quiet D. Lazy
5. Identify the sentence with correct subject-verb agreement: A. The team plays well together. B. There is many apples in the basket. C. Lisa and Tim is going to the movies. D. The dog and the cat are chasing each other.
6. What is the correct punctuation for the following sentence? My favorite colors are blue pink and purple. A. My favorite colors are: blue, pink, and purple. B. My favorite colors are blue, pink, and purple. C. My favorite colors are: blue pink and purple. D. My favorite colors are blue pink, and purple.
7. Which word is a synonym for "exquisite"? A. Beautiful B. Ugly C. Strong D. Big
8. Choose the sentence with correct capitalization: A. The president of the united states addressed the nation. B. I love visiting New York City in the spring. C. Have you ever been to the grand canyon? D. My english teacher is very strict.
9. Which of these sentences is punctuated correctly? A. I would love to meet you; for coffee tomorrow. B.

# SATPrep - SAT EXAM PREPARATION ASSISTANCE

Enter your search query below:

Search Query

Give me 10 objective type question to practice for SAT test Math

Search

1. What is the value of  $x$  in the equation  $2x + 5 = 17$ ? A) 6 B) 7 C) 8 D) 9
2. What is the value of  $y$  in the equation  $3y - 10 = 11$ ? A) 3 B) 5 C) 7 D) 8
3. If  $x = 4$  and  $y = -2$ , what is the value of  $x + 2y$ ? A) 0 B) 2 C) 4 D) 6
4. What is the value of the expression  $3(2x + 1)$  when  $x = 3$ ? A) 9 B) 12 C) 15 D) 18
5. If  $a = 4$  and  $b = 2$ , what is the value of  $3a + 2b$ ? A) 10 B) 12 C) 14 D) 16
6. What is the area of a rectangle with length 6 units and width 4 units? A) 20 square units B) 24 square units C) 28 square units D) 32 square units
7. If the perimeter of a square is 20 units, what is the length of each side? A) 4 units B) 5 units C) 6 units D) 7 units
8. What is the sum of the interior angles of a triangle? A) 90 degrees B) 180 degrees C) 270 degrees D) 360 degrees
9. If a circle has a radius of 5 units, what is its circumference? A)  $10\pi$  units B)  $15\pi$  units C)  $20\pi$  units D)  $25\pi$  units
10. What is the slope of the line passing through the points (2, 3) and (6, 9)? A) 2 B) 3 C) 4 D) 6